

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/210,952ADATE: 01/28/2000
TIME: 11:59:04

Input Set: I210952A.RAW

This Raw Listing contains the General Information
Section and up to first 5 pages.

1 <110> APPLICANT: Fainzilber, Michael M.
2 Kits, Karel S.
3 Burlingame, Alma L.
4 Olivera, Baldomero M.
5 Walker, Craig
6 Watkins, Maren
7 Shetty, Reshma
8 Cruz, Lourdes J.
9 Imperial, Julita
10 Colledge, Clark
11 University of Utah Resarch Foundation
12 Vrije Universiteit
13 Regents of the University of California
14 <120> TITLE OF INVENTION: Gamma-Conopeptides
15 <130> FILE REFERENCE: Gamma-Conopeptides
16 <140> CURRENT APPLICATION NUMBER: US/09/210,952A
17 <141> CURRENT FILING DATE: 1998-12-15
18 <150> EARLIER APPLICATION NUMBER: US 60/069,706
19 <151> EARLIER FILING DATE: 1997-12-16
20 <160> NUMBER OF SEQ ID NOS: 47
21 <170> SOFTWARE: PatentIn Ver. 2.0
22 <210> SEQ ID NO 1
23 <211> LENGTH: 42
24 <212> TYPE: PRT
25 <213> ORGANISM: Artificial Sequence
26 <220> FEATURE:
27 <223> OTHER INFORMATION: Description of Artificial Sequence:generic formula
28 of gamma-conopeptides
29 <220> FEATURE:
30 <221> NAME/KEY: PEPTIDE
31 <222> LOCATION: (1)..(13)
32 <223> OTHER INFORMATION: Xaa at residues 1, 2, 3, 4, 5, and 6 may be
33 des-Xaa or any amino acid; Xaa at residues 8, 9,
34 10, 11 and 12 may be any amino acid; Xaa at
35 residue 13 may be des-Xaa or any amino acid.
36 <220> FEATURE:
37 <221> NAME/KEY: PEPTIDE
38 <222> LOCATION: (15)..(19)
39 <223> OTHER INFORMATION: Xaa at residues 15, 16, 17 and 18 may be any amino
40 acid; Xaa at residue 19 is Glu,
41 gamma-carboxyglutamate or Gln.
42 <220> FEATURE:
43 <221> NAME/KEY: PEPTIDE
44 <222> LOCATION: (22)..(28)

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PAGE: 2

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/210,952ADATE: 01/28/2000
TIME: 11:59:04

Input Set: I210952A.RAW

45 <223> OTHER INFORMATION: Xaa at residues 22, 23 and 24 may be any amino
46 acid; Xaa at residue 25 may be des-Xaa or any
47 amino acid; Xaa at residues 27, 28 and 29 may be
48 any amino acid.

49 <220> FEATURE:

50 <221> NAME/KEY: PEPTIDE

51 <222> LOCATION: (30)..(42)

52 <223> OTHER INFORMATION: Xaa at residues 30, 31 and 32 may be des-Xaa or
53 any amino acid; Xaa at residues 34 and 35 may be
54 any amino acid; Xaa at residues 36, 37, 38, 39,
55 40, 41 and 42 may be des-Xaa or any amino acid.

56 <400> SEQUENCE: 1

57 Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
58 1 5 10 15
59 Xaa Xaa Xaa Cys Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa
60 20 25 30
61 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
62 35 40

63 <210> SEQ ID NO 2

64 <211> LENGTH: 42

65 <212> TYPE: PRT

66 <213> ORGANISM: Artificial Sequence

67 <220> FEATURE:

68 <223> OTHER INFORMATION: Description of Artificial Sequence:generic
69 sequence of gamma-conopeptides.

70 <220> FEATURE:

71 <221> NAME/KEY: PEPTIDE

72 <222> LOCATION: (1)..(13)

73 <223> OTHER INFORMATION: Xaa at residues 1, 2, 3, 4, 5 and 6 may be des-Xaa
74 or any amino acid; Xaa at residues 8, 9, 10, 11, 12
75 may be any amino acid; Xaa at residue 13
76 may be des-Xaa or any amino acid.

77 <220> FEATURE:

78 <221> NAME/KEY: PEPTIDE

79 <222> LOCATION: (15)..(22)

80 <223> OTHER INFORMATION: Xaa at residues 15, 16, 17 and 18 may be any amino
81 acid; Xaa at residue 19 is Glu,
82 gamma-carboxyglutamate or Gln; Xaa at residue 22
83 is Ser or Thr.

84 <220> FEATURE:

85 <221> NAME/KEY: PEPTIDE

86 <222> LOCATION: (23)..(29)

87 <223> OTHER INFORMATION: Xaa at residues 23 and 24 may be any amino acid;
88 Xaa at residue 25 may be des-Xaa or any amino
89 acid; Xaa at residues 27, 28 and 29 may be any
90 amino acid.

91 <220> FEATURE:

92 <221> NAME/KEY: PEPTIDE

93 <222> LOCATION: (30)..(42)

94 <223> OTHER INFORMATION: Xaa at residues 30, 31 and 32 may be des-Xaa or

PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/210,952ADATE: 01/28/2000
TIME: 11:59:04

Input Set: I210952A.RAW

95 any amino acid; Xaa at residues 34 and 35 may be
96 any amino acid; Xaa at residues 36, 37, 38, 39,
97 40, 41 and 42 may be des-Xaa or any amino acid.
98 <400> SEQUENCE: 2
W--> 99 Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
100 1 5 10 15
W--> 101 Xaa Xaa Xaa Cys Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa
102 20 25 30
W--> 103 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
104 35 40
105 <210> SEQ ID NO 3
106 <211> LENGTH: 39
107 <212> TYPE: PRT
108 <213> ORGANISM: Artificial Sequence
109 <220> FEATURE:
110 <223> OTHER INFORMATION: Description of Artificial Sequence:generic formula
111 of gamma-conopeptides
112 <220> FEATURE:
113 <221> NAME/KEY: PEPTIDE
114 <222> LOCATION: (1)..(13)
115 <223> OTHER INFORMATION: Xaa at residue 1 is any amino acid; Xaa at
116 residues 2, 3, 4, 5 and 6 may be des-Xaa or any
117 amino acid; Xaa at residues 8, 9, 10, 11, 12 and
118 13 may be any amino acid.
119 <220> FEATURE:
120 <221> NAME/KEY: PEPTIDE
121 <222> LOCATION: (27)..(39)
122 <223> OTHER INFORMATION: Xaa at residues 27, 28, 29, 31, 32, 33, 34, 35, 36
123 and 37 may be any amino acid; Xaa at residues 38
124 and 39 may be des-Xaa or any amino acid.
125 <220> FEATURE:
126 <221> NAME/KEY: PEPTIDE
127 <222> LOCATION: (15)..(19)
128 <223> OTHER INFORMATION: Xaa at residues 15, 16, 17 and 18 may be any amino
129 acid; Xaa at residue 19 is Glu,
130 gamma-carboxyglutamate or Gln.
131 <400> SEQUENCE: 3
W--> 132 Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
133 1 5 10 15
W--> 134 Xaa Xaa Xaa Cys Cys Ser Asn Ser Cys Asp Xaa Xaa Xaa Cys Xaa Xaa
135 20 25 30
W--> 136 Xaa Xaa Xaa Xaa Xaa Xaa
137 35
138 <210> SEQ ID NO 4
139 <211> LENGTH: 39
140 <212> TYPE: PRT
141 <213> ORGANISM: Artificial Sequence
142 <220> FEATURE:
143 <223> OTHER INFORMATION: Description of Artificial Sequence:generic
144 sequence of gamma-conopeptides.

PAGE: 4

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/210,952ADATE: 01/28/2000
TIME: 11:59:04

Input Set: I210952A.RAW

145 <220> FEATURE:
146 <221> NAME/KEY: PEPTIDE
147 <222> LOCATION: (1)...(13)
148 <223> OTHER INFORMATION: Xaa at residue 1 is any amino acid; Xaa at
149 residues 2, 3, 4, 5 and 6 may be des-Xaa or any
150 amino acid; Xaa at residues 8, 9, 10, 11, 12 and
151 13 may be any amino acid.
152 <220> FEATURE:
153 <221> NAME/KEY: PEPTIDE
154 <222> LOCATION: (15)...(19)
155 <223> OTHER INFORMATION: Xaa at residue 15 is Ser or Thr; Xaa at residues
156 16, 17 and 18 may be any amino acid; Xaa at
157 residue 19 is Glu, gamma-carboxyglutamate or Gln.
158 <220> FEATURE:
159 <221> NAME/KEY: PEPTIDE
160 <222> LOCATION: (27)...(39)
161 <223> OTHER INFORMATION: Xaa at residues 27, 28, 29, 31, 32, 33, 34, 35, 36
162 and 37 may be any amino acid; Xaa at residues 38
163 and 39 may be des-Xaa or any amino acid.
164 <400> SEQUENCE: 4
W--> 165 Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
W--> 166 1 5 10 15
W--> 167 Xaa Xaa Xaa Cys Cys Ser Asn Ser Cys Asp Xaa Xaa Xaa Cys Xaa Xaa
W--> 168 20 25 30
W--> 169 Xaa Xaa Xaa Xaa Xaa Xaa Xaa
170 35
171 <210> SEQ ID NO 5
172 <211> LENGTH: 34
173 <212> TYPE: PRT
174 <213> ORGANISM: Artificial Sequence
175 <220> FEATURE:
176 <223> OTHER INFORMATION: Description of Artificial Sequence: generic
177 sequence of gamma-conopeptides.
178 <220> FEATURE:
179 <221> NAME/KEY: PEPTIDE
180 <222> LOCATION: (1)...(6)
181 <223> OTHER INFORMATION: Xaa at residues 1 and 2 may be des-Xaa or a any
182 amino acid; Xaa at residue 3 is Asp, Glu or
183 gamma-carboxyglutamate; Xaa at residues 5 and 6
184 may be any amino acid.
185 <220> FEATURE:
186 <221> NAME/KEY: PEPTIDE
187 <222> LOCATION: (7)...(16)
188 <223> OTHER INFORMATION: Xaa at residue 7 is Trp or 6-bromo-Trp; Xaa at
189 residues 9, 10, 13 and 14 may be any amino acid;
190 Xaa at residue 16 is Glu, gamma-carboxyglutamate
191 or Gln.
192 <220> FEATURE:
193 <221> NAME/KEY: PEPTIDE
194 <222> LOCATION: (28)...(34)

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/210,952ADATE: 01/28/2000
TIME: 11:59:04

Input Set: I210952A.RAW

195 <223> OTHER INFORMATION: Xaa at residues 28, 30, 31, 32, 33 and 34 may be
196 any amino acid.

197 <400> SEQUENCE: 5
W--> 198 Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Cys Thr Xaa Xaa Ser Xaa
199 1 5 10 15
W--> 200 Cys Cys Ser Asn Ser Cys Asp Trp Thr Tyr Cys Xaa Leu Xaa Xaa Xaa
201 20 25 30
W--> 202 Xaa Xaa

203 <210> SEQ ID NO 6

204 <211> LENGTH: 32

205 <212> TYPE: PRT

206 <213> ORGANISM: Conus pennaceus

207 <220> FEATURE:

208 <221> NAME/KEY: PEPTIDE

209 <222> LOCATION: (1)..(31)

210 <223> OTHER INFORMATION: Xaa at residue 5 is Trp or 6-bromo-Trp; Xaa at
211 residues 14 and 26 are Glu or
212 gamma-carboxyglutamate; Xaa at residue 31 is Pro
213 or hydroxy-Pro.

214 <400> SEQUENCE: 6
W--> 215 Asp Cys Thr Ser Xaa Phe Gly Arg Cys Thr Val Asn Ser Xaa Cys Cys
216 1 5 10 15
W--> 217 Ser Asn Ser Cys Asp Gln Thr Tyr Cys Xaa Leu Tyr Ala Phe Xaa Ser
218 20 25 30

219 <210> SEQ ID NO 7

220 <211> LENGTH: 34

221 <212> TYPE: PRT

222 <213> ORGANISM: Conus textile

223 <220> FEATURE:

224 <221> NAME/KEY: PEPTIDE

225 <222> LOCATION: (1)..(34)

226 <223> OTHER INFORMATION: Xaa at residues 1, 7 and 34 are Trp or
227 6-bromo-Trp; Xaa at residues 3 and 16 are Glu or
228 gamma-carboxyglutamate; Xaa at residues 31 and 32
229 are Pro or hydroxy-Pro.

230 <400> SEQUENCE: 7
W--> 231 Xaa Leu Xaa Cys Ser Val Xaa Phe Ser His Cys Thr Lys Asp Ser Xaa
232 1 5 10 15
W--> 233 Cys Cys Ser Asn Ser Cys Asp Gln Thr Tyr Cys Thr Leu Met Xaa Xaa
234 20 25 30

W--> 235 Asp Xaa

236 <210> SEQ ID NO 8

237 <211> LENGTH: 39

238 <212> TYPE: PRT

239 <213> ORGANISM: Conus textile

240 <220> FEATURE:

241 <221> NAME/KEY: PEPTIDE

242 <222> LOCATION: (1)..(39)

243 <223> OTHER INFORMATION: Xaa at residues 1, 2, 4, 10 and 39 are Trp or
6-bromo-Trp ; Xaa at residues 19 and 31 are Glu or

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.

Input Set: I210952A.RAW

Line	?	Error/Warning	Original Text
57	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa X
59	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Cys Cys Xaa Xaa Xaa Cys X
61	W	"N" or "Xaa" used: Feature required	Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
99	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa X
101	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Cys Cys Xaa Xaa Xaa Cys X
103	W	"N" or "Xaa" used: Feature required	Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
132	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa X
134	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Cys Cys Ser Asn Ser Cys Asp X
136	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X
165	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Cys Ser Asn Ser Cys Asp X
167	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa X
169	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Cys Cys Ser Asn Ser Cys Asp X
198	W	"N" or "Xaa" used: Feature required	Xaa Xaa Xaa Xaa Xaa Phe Xaa Xaa C
200	W	"N" or "Xaa" used: Feature required	Cys Cys Ser Asn Ser Cys Asp Trp Thr Tyr C
202	W	"N" or "Xaa" used: Feature required	Xaa Xaa
215	W	"N" or "Xaa" used: Feature required	Asp Cys Thr Ser Xaa Phe Gly Arg Cys Thr V
217	W	"N" or "Xaa" used: Feature required	Ser Asn Ser Cys Asp Gln Thr Tyr Cys Xaa L
231	W	"N" or "Xaa" used: Feature required	Xaa Leu Xaa Cys Ser Val Xaa Phe Ser His C
233	W	"N" or "Xaa" used: Feature required	Cys Cys Ser Asn Ser Cys Asp Gln Thr Tyr C
235	W	"N" or "Xaa" used: Feature required	Asp Xaa
248	W	"N" or "Xaa" used: Feature required	Xaa Xaa Arg Xaa Gly Gly Cys Met Ala Xaa P
250	W	"N" or "Xaa" used: Feature required	Asp Ser Xaa Cys Cys Ser Asn Ser Cys Asp V
252	W	"N" or "Xaa" used: Feature required	Met Xaa Phe Xaa Xaa Asp Xaa
264	W	"N" or "Xaa" used: Feature required	Cys Lys Thr Tyr Ser Lys Tyr Cys Xaa Ala A
266	W	"N" or "Xaa" used: Feature required	Xaa Gln Cys Val Arg Ser Tyr Cys Thr Leu P
280	W	"N" or "Xaa" used: Feature required	Asp Xaa Xaa Asp Asp Gly Cys Ser Val Xaa G
282	W	"N" or "Xaa" used: Feature required	Ala Xaa Cys Cys Ser Gly Asp Cys His Xaa T
284	W	"N" or "Xaa" used: Feature required	Xaa Val
297	W	"N" or "Xaa" used: Feature required	Gly Met Xaa Gly Xaa Cys Lys Asp Gly Leu T
299	W	"N" or "Xaa" used: Feature required	Ser Xaa Cys Cys Ser Xaa Asp Cys Xaa Gly S
312	W	"N" or "Xaa" used: Feature required	Xaa Cys Arg Ala Xaa Tyr Ala Xaa Cys Ser X
328	W	"N" or "Xaa" used: Feature required	Asn Gly Gln Cys Xaa Asp Val Xaa Met Xaa C
330	W	"N" or "Xaa" used: Feature required	Cys Cys Ser Leu Asp Cys Xaa Met Tyr Cys T
343	W	"N" or "Xaa" used: Feature required	Cys Gly Gly Xaa Ser Thr Tyr Cys Xaa Val A
345	W	"N" or "Xaa" used: Feature required	Xaa Ser Cys Val Arg Ser Tyr Cys Thr Leu P
358	W	"N" or "Xaa" used: Feature required	Asn Gly Gly Cys Lys Ala Thr Xaa Met Ser C
538	W	"N" or "Xaa" used: Feature required	ctctgccgt tgacacntca tctactctct cagtctcc
759	W	Invalid/Missing Amino Acid Numbering	
790	W	"N" or "Xaa" used: Feature required	Leu Cys Xaa Asp Tyr Thr Xaa Xaa Cys Ser H
792	W	"N" or "Xaa" used: Feature required	Ser Xaa Asn Cys Tyr Asn Gly His Cys Thr
806	W	"N" or "Xaa" used: Feature required	Xaa Cys Cys Ser
825	W	"N" or "Xaa" used: Feature required	sartgytgty cn
845	W	"N" or "Xaa" used: Feature required	athytnytnng tngcngcngt nytn
857	W	"N" or "Xaa" used: Feature required	Asp Cys Thr Ser Trp Phe Gly Arg Cys Thr V
859	W	"N" or "Xaa" used: Feature required	Ser Asn Ser Cys Asp Gln Thr Tyr Cys Xaa L
871	W	"N" or "Xaa" used: Feature required	Cys Gly Gly Tyr Ser Thr Tyr Cys Xaa Val A
884	W	"N" or "Xaa" used: Feature required	Asp Xaa Thr Ser Trp Phe Gly Arg
897	W	"N" or "Xaa" used: Feature required	Xaa Thr Val Asn Ser Xaa Xaa Ser Asn S
899	W	"N" or "Xaa" used: Feature required	Xaa Xaa Leu Tyr Ala Phe Xaa Ser